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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,373	10/29/2001	Hiroshi Sasaki	01697/LH	1645

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EXAMINER

PRITCHETT, JOSHUA L

ART UNIT PAPER NUMBER

2872

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/006,373	SASAKI ET AL.	
	Examiner	Art Unit	
	Joshua L. Pritchett	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 28-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to Request for Continued Examination filed April 19, 2006 and Amendment filed March 20, 2006. Claim 28 has been amended and claims 38 and 39 have been cancelled as requested by the applicant.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schoeppe (US 6,167,173) in view of Lee (US 4,449,821) and Goix (US WO 98/57152).

Regarding claims 28, 33 and 34, Schoeppe discloses a laser microscope (fig. 1), which irradiates a sample (5) with a laser light (from 13.2) including laser lines of different emission wavelengths comprising: a light source (13.2) to emit the laser light; a monitoring diode/light receiving element (19) to output a detection signal that includes light intensity information of the lights (column 4, lines 1-7), and a controller (36, 34) configured to receive an output signal of the diode and control light intensities of the respective laser lines based on the detection signal

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(column 4, lines 1- 19). Schoeppe further discloses wherein the microscope detects fluorescent lights emitted from the sample by the emission wavelengths of the laser lines of the laser light (column 3, lines 49-52). Schoeppe discloses the claimed invention except for the light receiving element being an array that simultaneously receives lights of different emission wavelengths; wherein said light receiving element array comprises either one of a split photodiode and a solid-state image sensing device; and wherein the controller simultaneously controls the light intensities. Lee teaches a system (fig. 1) with a light receiving element array (6) which includes a split photodiode detector and a control system (2) which is configured to receive the output signal of said light receiving element array and simultaneously control setting the respective light intensities of the lines of different emission wavelengths included in said laser light to be constant (column 4, line 43-column 5, line 45). Schoeppe further lacks reference to dyes and spectral resolution. Goix teaches a laser microscope system (fig. 3C) with a monitoring system that includes a spectral resolution section (313), which is a diffraction grating, configured to spectrally resolve light into the lines of different emission wavelengths (page 7, lines 24-27); and a light receiving element array (315). Goix further teaches in column 3, lines 36-41 that it is very well known to mark a sample with fluorescent markers, including dyes, to provide fluorescence of a sample. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace light receiving element array and controller of Schoeppe et al. with that of Lee to provide faster corrections of light variation in the system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace spectral resolution section of Schoeppe with that of Goix to provide faster resolving of the wavelengths with no moving parts. It would have been obvious to one of ordinary skill in the art at the time

the invention was made to prepare the sample of Schoeppe with fluorescent markers as suggested by Goix as it is a reliable, commonly available method of creating the fluorescence of the sample.

Regarding claims 29 and 30, Schoeppe further discloses an acousto-optical element (AOTF within 13.2), fixed to an output end of the laser source (fig. 1) to alter the light intensities of the laser lines, wherein the acousto-optical element receives a control signal output from the controller (column 4, lines 4-19); wherein the controller controls the acousto-optical element to control the respective light intensities of the laser lines to be constant (column 4, lines 19).

Regarding claim 31, Schoeppe et al. further disclose wherein the light source (13.2) comprises one laser light source that emit laser light of different emission wavelengths (column 3, line 20; the multiple-wavelength laser).

Regarding claim 32, Schoeppe et al. further disclose wherein the light source (13.2) comprises a plurality of laser light sources that emit laser light of different emission wavelengths (column 3, line 20; single-wavelength and multiple-wavelength lasers).

Claims 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schoeppe (US 6,167,173) in view of Lee (US 4,449,821) and Goix (US WO 98/57152), as applied to claim 28 above, and further in view of Eastman (US 5,684,582).

Schoeppe in view of Lee and Goix, as applied to claim 28 above further disclose an optical fiber (14.2) to transmit the laser light from the laser source (fig. 1); a collimator lens (16, Schoeppe) configured to collimate said laser light guided by the optical fiber; and a beam splitter (18) configured to split the laser light collimated by the collimator lens and guide a part of the

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split laser light to the spectral resolution section. Schoeppe in view of Lee and Goix, as applied to claim 28 above disclose the claimed invention except for a converging lens disposed between said spectral resolution section and said light receiving element array and configured to converge the lines of different emission wavelengths; and wherein the spectral resolution unit comprises a prism. Eastman et al. teaches spectral resolution unit (fig. 1) including a prism (column 4, lines 6-7) and a converging lens (66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the converging lens of Eastman et al. to the system of Schoeppe in view of Lee and Goix to prevent stray light or to be able to image the light. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the spectral resolution section of Schoeppe in view of Lee and Goix with that of Eastman to provide faster resolving of the wavelengths with no moving parts. Further, regarding claim 37, the monitoring section of Schoeppe in view of Lee and Goix, which includes the collimator lens, the beam splitter, the spectral resolution section, the light receiving element array, and the converging lens from Eastman are formed into one block (within the scanning unit of the microscope), and the block is constituted to be attachable/detachable with respect to a main body (M) of the laser microscope.

### ***Response to Arguments***

Applicant's arguments, see Amendment, filed March 20, 2006, with respect to the rejection(s) of claim(s) 28 under Schoeppe in view of Lee have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration,

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a new ground(s) of rejection is made in view of Schoeppe in view of Lee and Goix. Applicant amended claim 28 to include the limitations of claims 38 and 39. Applicant further argued the Schoeppe reference and the Lee reference failed to teach spectral resolution. The Goix reference teaches these limitations as stated in the rejection above. Applicant argues that Goix spectrally resolves the light emissions from the sample. The broadest reasonable interpretation of the claim language appears to include spectral resolution of the light emissions from the sample.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Joshua L Pritchett  
Examiner  
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